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AUTHOR Barbrack, Christopher R.: And Others
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ABSTRACT

This report describes the Demonstration and Research Center for Early Childhood Education (DARCEE), a center initiated to develop knowledge to improve the educability of young children. The report includes a fold-out diagram of DARCEE intervention programs--completed, current, and planned. Each program is listed with (1) an explanation of the purpose and objectives of the program; (2) a listing of program publications and reports; and (3) a description of the individual project's setting, subject population, and the time period involved. Included in the report is a general description of the DARCEE program organized in terms of two classes of variables, aptitude for achievement and attitudes toward achievement. Programs for language, social, and physical development are discussed. Also explained are programs for parents which are built on the idea that training the mother to provide experiences for her children will promote their growth and development. DARCEE program implementation methods and evaluation approaches used are included in this report. (AJ)

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Information on Intervention Programs

of

The Demonstration and Research Center for Early Education

This report prepared by:

Christopher R. Barbrack, Acting Director of Training
Barbara R. Gilmer, Intervention Studies Program Head
Paula C. Goodroe, Director of Early Training Centers

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Susan W. Gray, Director; Paul Dokecki, Associate Director
DARCEE
A Component of the John F. Kennedy Center
for Research on Education and Human Development
George Peabody College
Nashville, Tennessee 37203

General Orientation of the DARCEE Program

The central mission of the Demonstration and Research Center for Early Childhood Education (DARCEE) is to develop knowledge which will lead to improving the educability of young children. The emphasis here is upon children from low-income homes. Regardless of the ethnic or cultural group, urban or rural location, or family member involved, our objectives relate to our central mission which determines our immediate focus and our long-range plans. There are implicit developmental tenets underlying the basic assumptions from which our rationale for early childhood education intervention has evolved.

The first assumption is that young children can learn skills and behaviors which accumulate and provide a more adequate basis for acquiring a repertory of effective ways of dealing with everyday living--present and future. Consequently, we believe that experience is a major factor in influencing learning, or perhaps even more vital, developing a set to learn. Inherent in this view is the recognition of differences in levels and styles of behavioral operations of the individual and the necessity of employing an educational model which does not associate the difference concept as being synonymous with inadequacy within a particular subculture.

Our second major assumption is, however, directed toward intervening with subcultural differences. Our thrust here is to look at the specific skills which children will be expected to acquire in order to learn how to learn. It is our experience that a home, family, or subculture of inadequate resources for providing for learning to learn is highly related to indices of lowered income, educational attainment levels of parent(s), and consequently, lowered social mobility which is, in turn, adverse to the

development of achievement motivation. Also from our intervention program experience, we believe that the mother is the key agent in a child's acquisition of a set to learn. We further recognize that the daily attempts to cope with minimal subsistence does not allow time for a mother to concern herself with or to recognize her family's educational problems or potential.

The nature of our assumptions underlying our rationale for early childhood educational intervention efforts is not independent. Some four years of program implementation with young disadvantaged children and their parents have provided us with the type of early education model which offers immediate and long-range economic viability. The sustaining of treatment effects, the influence upon other family members not directly involved in the program, and the typical pattern of the mother's mobility both upward and outward in direction are the effects we recognize as positive treatment results.

The number of children (often with parents) in DARCEE program, 1965-1970, are as follows:

a. Total Number = 2,251

b.

0-1		1-2		2-3		3-4		4-5		5-6		6-7	
Urban	Rural	U	R	U	R	U	R	U	R	U	R	U	R
31	0	0	0	60	34	50	0	52	1,000	360	480	0	184

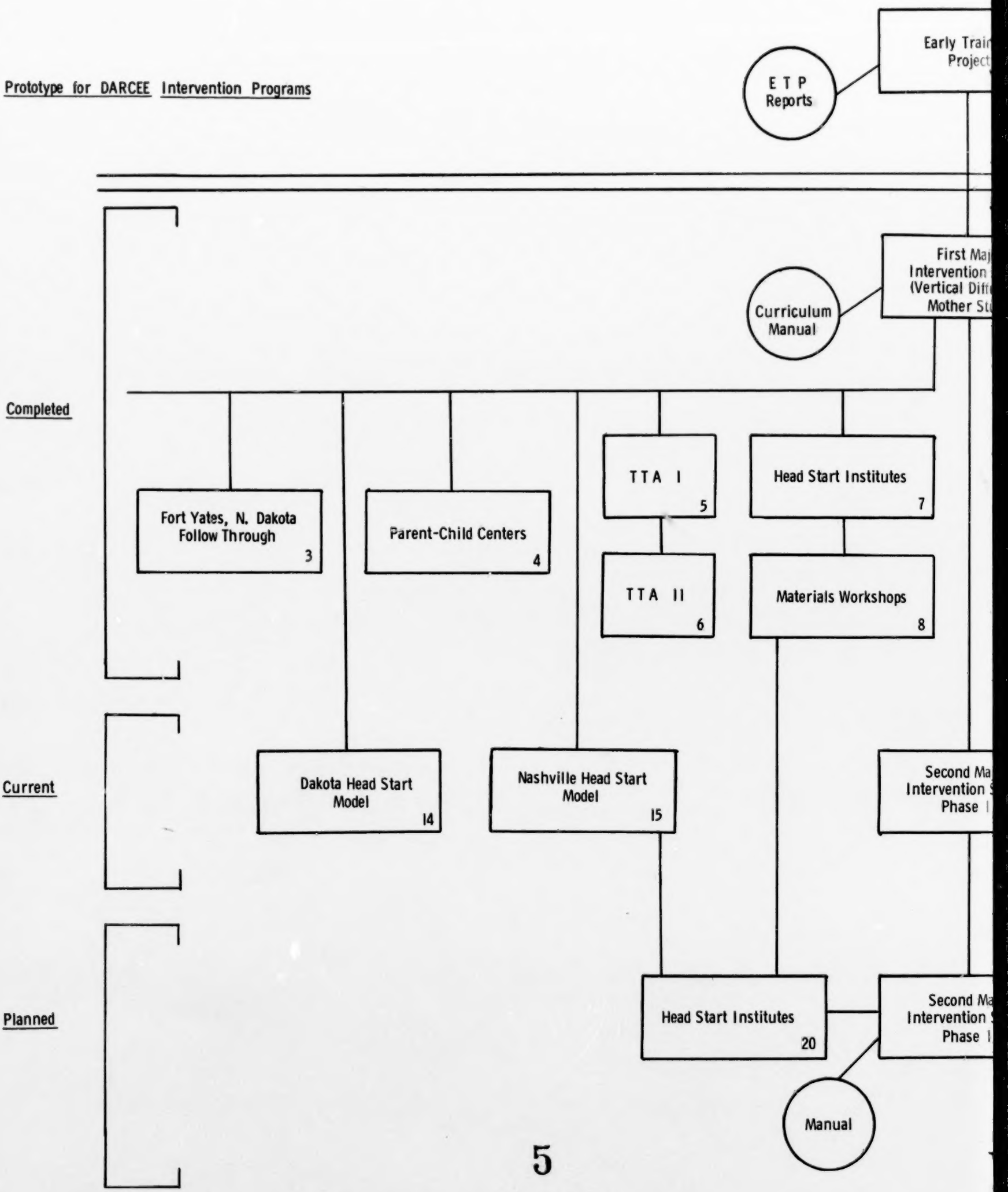
c. All Low Income

d. Urban = 553 Rural = 1,698

In the fold-out diagram of DARCEE Intervention Programs (P. 4), each program is numbered. The numbers correspond to the numbers used in the Program/Project descriptions on pages 6 through 17.

DARCEE INTERVEN

Prototype for DARCEE Intervention Programs



TERVENTION PROGRAMS

LEGEND

Programs and Projects

Major Disseminable Products

DARCEE Model Adaptation

Early Training Project 1

Before First Grade

First Major Intervention Study (Vertical Diffusion-Mother Study) 2

First Major Report

tes 7

ops 8

Head Start Home Visitor Study 9

Infant Exploratory Study 10

Mother Home Visitor I Study 11

12 Univ. of Louisville, Ky.

13 Santa Clara Co., Calif.

Second Major Intervention Study Phase I 16

Nutrition Study I 17

Intervention Study with Mothers and Infants: Phase I 18

Mother Home Visitor II Study 19

24 Racine, Wis.

Second Major Intervention Study: Phase II 21

Nutrition Study II 22

Intervention Study with Mothers and Infants: Phase II 23

Manual I
Manual II

No.	Program or Project	Description
1	The Early Training Project (Prototype for DARCEE Intervention Programs)	This has been a longitudinal field research project concerned with the development and testing of procedures for improving the educability of young children from low-income homes.
2	First Major Intervention Study (Vertical Diffusion-Mother Study)	The purpose of this study is to conduct a systematic assessment of the agents of change which enhance vertical diffusion of cognitive stimulation within a family. The research focus is on comparison of several methods and procedures of intervening in families from disadvantaged environments.

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Products	Descriptive Characteristics
1. Several reports and publications are available from this project. Two will be mentioned. Gray, S. W. & Klaus, R. A. The early training project: A seventh year report. Child Development, 1970, in press. Gray, S. W., Klaus, R. A., Miller, J. O., & Forrester, B. J. Before first grade. New York: Teachers College Press, Columbia University, 1966.	
2. Interim progress reports have been issued periodically throughout the study to the funding agencies. The first major report with summary through October, 1969, will be out by September, 1970. Responsible writer: Barbara Gilmer.	Setting: Early Training Center I; on the grounds of a local housing project which is a component of the Nashville Housing Authority Administration. The population is urban, black, and low income. Population: There were three treatment groups in this study. Each group consisted of 20 family-member triads; the mother, the preschool-aged target child, and a younger sibling. Comparison groups were: LSE Mother and Younger Sibling N = 25 pairs LSE Preschool-Aged Children N = 25 MSE Mothers N = 18 Time Period Involved: 1966 and continuing.

No.	Program or Project	Description
3	Fort Yates, North Dakota, Follow Through	This project was to provide training and to facilitate planning and evaluation of a home visitor program for Follow Through.
4	Elk and Duck Rivers Parent-Child Center Project	The purpose of this project was to study methods for training Home Visitors to work with disadvantaged families and to develop educational materials to be used with children from birth to three years.
5&6	Training of Trainers of Aides I & II	These projects were to provide methods of training trainers (graduate students) to provide an effective program of inservice education for people working in child development centers.
7&8	The Head Start Institutes and the Materials Workshops	These have been conducted as training endeavors, primarily on a short-term basis. The objectives have included training participants in various aspects of the DARCEE model.

Products	Descriptive Characteristics
3. Final report is in the process of completion. Expected by September, 1970. Responsible writer: Rosemary Giesy.	Setting: Fort Yates, North Dakota, rural first grades for Indian-American six and seven year olds. Population: In 1968-1969, the population N was 50 children. The second year, 1969-1970, some 80 children were involved. Time Period Involved: 1968-1970
4. Final report completed. Dissemination date projected on or before September, 1970. Responsible writer: David Wickens.	Setting: The Elk and Duck Rivers (Southern Tennessee) Parent-Child Centers. Population: DARCEE personnel worked with 34 mother-child pairs through the centers as well as with a home visiting method. The children were 17 to 36 months of age, and the racial composition was black and white. Time Period Involved: 1968-1969
5&6. Final reports are in the process of completion.	Setting: The participants in this program trained teachers and aides and worked with these trainees in seven Head Start centers in rural south and southeast Tennessee communities for two years. Population: The first year there were 240 children in the centers; the second year, there were 180. The population was rural, black and white. Time Period Involved: 1967-1968 1968-1969
7&8. DARCEE materials and methods are used in conducting the Institutes and Workshops.	

No.	Program or Project	Description
9	Head Start Home Visitor	The purpose here was to study the effects of a home visitor program upon the aptitude of first grade children having attended a Summer Head Start Program. Two treatments were compared: one supplemented the first grade curriculum; the other focused on gross motor coordination.
10	Infant Exploratory Study	This project was designed to explore a home intervention program with mothers and infants. Objectives included developing materials and teaching the mother to use them with her child.
11	Mother Home Visitor I	The purpose here was to extend the Vertical Diffusion Study by using some of the mothers from the first major intervention study as Mother Home Visitors.
12	University of Louisville, Louisville, Kentucky. An Experimental Variation of Head Start Curricula	DARCEE personnel consulted with and trained teachers to implement the DARCEE model in this project.

Products	Descriptive Characteristics
9. Final report available. Responsible writer: Christopher R. Barbrack. Project contributes to the Home Visitor Manual.	Setting: A predominately rural, small town area some 40 miles south of Nashville. Population: There were five groups of 18 children each. Two of these groups served as local and distal control groups. The three remaining groups were participants in a Home Visitor type program. The content of the program varied among the groups. The subjects were from low-income, black families.
10. Products from this project will be related to No. 18, Intervention Study with Mothers and Infants. Responsible writers: Susan Gray and Bettye Jeanne Forrester.	Setting: Urban, low-income homes in Nashville. Population: This study was a home visiting approach, working with eleven mother-child pairs. The children were seven to nine months of age. Racial composition of the population was black. Time Period Involved: 1969
11. Final report available by August, 1970. Responsible writers: Christopher R. Barbrack and Della Horton.	Setting: The setting was the same housing project described in No. 2. Population: There were 12 mother-child pairs who received weekly home visits from teachers who were formerly participants in a treatment group for a major intervention study. This population was urban and black; the children ranged in age from 40 to 64 months. Time Period Involved: 1968-1969
12. Miller, L. B., et al. Experimental variation of head start curricula: a comparison of current approaches. Progress Report No. 4, June 30, 1969-October 31, 1969, University of Louisville, Research Grant # CG 8199, Office of Economic Opportunity.	

No.	Program or Project	Description
13	Spanish DAME Project of Santa Clara County, California	DARCEE personnel consulted with and trained the directors of this project. The purpose was to adapt a home visiting program for preschool Mexican-American, Spanish speaking children.
14	Dakota Head Start	The purpose of this project is to disseminate the model program developed by DARCEE through the training of teams from Head Start projects funded to Indian Tribal Councils in North and South Dakota.
15	Head Start Dissemination of DARCEE Model	The primary aim of this project is to facilitate the adoption of the DARCEE curriculum in Nashville's six Head Start Centers. A comparison of two methods of training center directors and teachers will be made.
16	Second Major Intervention Study: Phase I	This study is multi-faceted with a cluster of related and congruent purposes. The central focus of the work with children will be the refinement and specific adaptation of our general curricular approach for children three to six to a one-year program for four-year-old children. The focus of the work with mothers will be on studying the differential effect of two treatments upon the mothers' development of competence as educational change agents for their children, and their changes in attitudes toward the other race (black and white mothers will be included).

Products	Descriptive Characteristics
13. Reports will be available from the Santa Clara County School System.	
14. Final report, September, 1970. Responsible writer: Rosemary Giesy.	Setting: There were seven Indian Reservations in North and South Dakota which were involved in this DARCEE model dissemination. Population: The population of 1,000 children was predominately rural Indian-American, aged four to five years. Time Period Involved: 1969-1970
15. Final report, September, 1970. Responsible writer: Christopher R. Barbrack.	Setting: Treatment groups were in six Nashville Head Start Centers. There were three distal comparison groups in Memphis, Tennessee. Population: Approximately 300 children were enrolled in the Nashville centers. The ratio of black to white children was about 85 to 15%. The Memphis centers had a similar race ratio and included approximately 150 children. Both groups were from an urban setting. Time Period Involved: 1969-1970
16. A final report on this phase of the study should be available by October, 1970. Additional products will be available when Phase II of the planned study is completed.	Setting: Peabody College Campus, Nashville, Tennessee, Early Training Center II. Population: This study included 40 mother-child pairs, equally divided as to race. There were equivalent numbers of boys and girls, who were four years of age. Twenty of the pairs were involved in the treatment, and 20 pairs were for comparison purposes. Time Period Involved: 1969-1970

No.	Program or Project	Description
17	The Vanderbilt-DARCEE Study on Nutrition I	The purpose of this study was to assess the general health and nutritional status of some 60 children, rural and urban, enrolled in the DARCEE Early Training Centers, as related to their performance on psychometric tests and school performance.
18	Intervention Study with Mothers and Infants: Phase I	This project is to conduct a systematic assessment of the effectiveness of a home intervention program for mothers of infants. Subjects during the first year will be 20 young white and Negro mothers from low-income homes and their infants who are between six and nine months of age at the beginning of intervention.
19	Mother Home Visitor II	The purpose is to extend the Vertical Diffusion Study one step farther than the Mother Home Visitor I has done. Two of the former mothers from the Maximum Impact group (of the Vertical Diffusion Study) will serve as trainers of eight home visitors. These eight trainees and their children participated as subjects in the first Mother Home Visitor Study (No. 11).
20	Head Start Institutes	Planned for 1970-1971.
21	Second Major Intervention Study: Phase II	Planned for 1970-1971.
22	The Vanderbilt-DARCEE Study on Nutrition II	Planned for 1970-1971.

Products	Descriptive Characteristics
17. A report will be available by October, 1970. The information from this study will be used to phase into the second Nutrition Study (No. 22) which is planned.	
18. Products should include a procedural manual, a responsive environmental crib apparatus, and a manual of materials recommended for cognitive stimulation. A continuation of the development of these products will be in Phase II of the planned study. Responsible writers: Susan Gray and Bettye Jeanne Forrester. Project contributes to the Home Visitor Manual.	Setting: Low-income, urban homes of black and white families. Population: Twenty mother-child pairs are involved. The children ranged in ages from six to nine months at the beginning of treatment. A comparison group of 20 mother-child pairs is being used. Time Period Involved: 1969-1970
19. A final report will be available by September, 1970. Responsible writer: Christopher R. Barbrack. Project contributes to the Home Visitor Manual.	Setting: Same urban housing project setting as in No. 2. Population: The ten mother-child pairs who are subjects in this study are black. The children range in ages from 42 months to 51 months.

No.	Program or Project	Description
23	Intervention Study with Mothers and Infants: Phase II	Planned for 1970-1971.
24	Racine, Wisconsin: Title I Program	The purpose of this study will be to provide training and consultation to facilitate implementation of the DARCEE Model in home visiting and classroom situations.

Products	Descriptive Characteristics
24. Reports will be available from the Racine, Wisconsin, School System.	

Description of Programs for Children

The DARCEE program addresses more than one element of child development. It has evolved, to some degree, in a developmental fashion from the Early Training Project of the early sixties and from experience with many groups of children who have participated in three Early Training Centers since early 1966. Seven groups, twenty children in each group, have been in the program for one year (forty weeks) three and one-half hours each day. Forty additional children were in a DARCEE intervention program for two years.

The DARCEE curriculum has been adapted and disseminated in a variety of settings (see attached Chart, "DARCEE Intervention Programs") Various Home Visitor Programs conducted in the home setting involving both the mother, sometimes the father, the preschool child and his siblings have adapted and used the DARCEE curriculum.

The DARCEE program, which is research oriented, is organized in terms of two major classes of variables, aptitudes for achievement and attitudes toward achievement. We have looked at specific skills which the children will be expected to master; then we have attempted to provide the ground work for acquiring these skills. In reality, we have sometimes built on strengths of the child, and at other times, our aim has been to remedy weaknesses. We have attempted to think about what our goals are in "educating" young children, then to ask ourselves why and how do we go about the task.

Charles E. Silberman stated in a recent article, "Murder in the Schoolroom" (The Atlantic, June, 1970), "to be practical, an education should prepare a man for work that doesn't exist yet and whose nature cannot even be imagined."

Curriculum then needs to be broad yet specific; children need to learn much more than basic skills. They need to be taught how to learn--how to recognize new problems as they arise and to apply knowledge to find solutions.

We have attempted to specify perceptual templates for finer and finer discrimination used to decode stimulus information in each of the major sense modalities. The development of cognitive schema to assimilate and encode appropriate responses is encouraged through a variety of experiences. The curriculum is sequentially organized to realize the goal of improving the educability of the young children. Past research has indicated that certain skills and attitudes correlate with both academic achievement and living in our society. Our responsibility has been to develop a comprehensive, developmental curriculum to foster socialization for competence--development of the cognitive skills for environmental mastery and the sustaining motivations necessary for continued growth. The process is continually assessed, refined, and modified. The curriculum not only can be replicated but is feasible in terms of cost and use of paraprofessional personnel.

Aptitude (Cognitive) Development

The aptitude development curriculum consists of approximately fifty skill areas falling into three broad categories; (1) the skills and concepts necessary for the perception and decoding of stimuli, (2) the skills utilized in organizing and integrating stimuli, and (3) the skills required in encoding the product of the decoding and organization processes. Each of the fifty skill areas has been programmed over the treatment period in two developmental directions. First, a given skill is sequenced along a vertical continuum from a gross, general, level of discrimination and differentiation to a specific or even complex level of development. Second, at each vertical level, a skill

is programmed horizontally along a continuum from the concrete to the abstract level, moving through the overlapping perceptual, conceptual, and language phases of learning. The projected end result is a firm command of each skill at a high level of complexity, sophistication, and abstraction at the verbal level. Careful introduction and ordering of new material in steps of just manageable difficulty aids in moving motivations from an extrinsic to an intrinsic locus, while insured success develops good attitude toward self and task orientation in school related activities.

Skills are developed through the medium of content units which are selected and carefully programmed. The units used early in the intervention provide opportunities for the development of basic sensory concepts in very concrete situations; later units use this learning to build higher level concepts and to develop skills in organizing experiences. Using an interrelated unit approach, each unit uses skills, concepts, and understandings developed in the preceding unit. For example, the first unit, "All About Me," was followed by subsequent content units such as home and family, community and city. Starting with the child, the learning moved outward in ever-widening, concentric circles. Learning is made meaningful with many real experiences, including visitors to the classroom and appropriate field trips.

Sequence and rate of learning varies with each child in the program. The curriculum is adapted to the level of skill competence of the individual child. Although the DARCEE program has been documented, variations are utilized according to the setting and subject population. Appropriate materials are selected, adapted, or developed to meet the objectives of the activities.

Attitude Development (Affective-Motivational)

Our assumption has been that cognitive skill development in and of itself is not enough for a preschool program. We believe appropriate

attitudes can and should be learned in order to maintain and sustain continued cognitive development; the learning of personal and social attitudes requisite for competent functioning in a group is an important element of the DARCEE program.

When a child experiences success in accomplishing tasks, he recognizes the intrinsic reward inherent in such success. The child from the disadvantaged environment has often had few success experiences; most often his behavior is under the control of external rewards, immediate and concrete. By carefully sequencing the skill level of the tasks presented, we can assure the child's success; a continuum of reinforcement is provided from the concrete, immediate reward of his environment through the verbal praise of his classroom teacher to the intrinsic reward of successfully meeting the challenge presented by the task. Such a shift is not accomplished quickly or easily. Many tasks and several months are required to work through the reinforcement schedule to generalization of intrinsic motivation. As the child "stretches" for new understandings, he also internalizes reinforcement.

Our materials include many ethnic identity components; for example, if we cannot buy that with which the black child can identify, we can make it or design it and have it made. Activities related to the unit "All About Me" are planned to create a positive self-image. Many materials such as mirrors, a flannel face, books, and puzzles with which he can ethnically identify, and self-portraits are used not only early in the program but throughout the curriculum. Whenever the child's activities in the classroom develop a product, it is prominently displayed with his name. Each child's name is used as often as possible so that he learns and uses the names of the children and teachers in his group.

Specific verbal feedback is given immediately after the response to tell the child that he is right. Teachers ignore inappropriate behavior. Care of materials, pride in ownership, identification with school-type activities is developed. The child learns to identify with achieving role models provided in the classroom. Persistence is taught through tasks chosen for each child so as to present challenge but not frustration; the teacher or another child provides help if it is needed. All tasks are worked through to completion. Toward the end of the one-year treatment, most children are found to be motivated by the very act of processing information. Usually no external reinforcement is sought or needed.

Language Development

Language development is an integral part of cognitive development. We accept whatever language the child brings to the DARCEE program; rejection of his language, or lack of it, is a rejection of the child. We try to help him use the language he has rather than to change his language, but we do expand his use of language by giving him more experiences to verbalize, supplying labels for these experiences and providing a teacher who is a good language model. Opportunities for spontaneous language are a part of the curriculum. Many listening activities are provided; a sound sequencing treatment in our rural center has been successful in improving the articulation and auditory discrimination of the children. Books, flannel stories, dramatizations, and role play are a part of each day's activities for all children. Progress on the part of individual children is noted; some learn to use complex sentences with descriptive adjectives to recall in sequence a story or an experience. Listening and speaking language skills are a

prominent part of the curriculum; only pre-reading or pre-writing skills are developed. Some six-year-olds do learn to read and some are able to duplicate letters.

Social Development

The social element of the DARCEE program is a necessary part of the whole. The children are transported from their homes to the Early Training Center on a micro-bus. At the center they belong to a small group of five children, mixed by sex and race; the grouping is flexible. Each group has its own "special teacher"; these small group teachers may be a paraprofessional, a mother of a child in the group, or a trainee. On arrival, the group has a "snack" together at a table; this is a time for informal, spontaneous language. The teacher is alert to pick up on the interests of the children and use them for learning. All children are a part of "the large group" (twenty children) for two portions of the day. The first large group is a planning time and a time for cognitive as well as social development. An outdoor physical activity period is scheduled at mid-morning. At least one activity during the three and one-half hour period is called a "structured free choice." At this time, each child makes a choice of what he would like to do from five activities which have been pre-selected by the teaching staff. He may change as often as he desires during the twenty minute period. Lunch time is followed by the last large group, a time for recalling what he did at school today.

Physical Development

Physical activity is a part of each day's program; weather permitting, this takes place on a spacious, well-equipped playground. In bad weather, tables and chairs are moved back to make room for large muscle activities

in the open area. However, we have found that the children from low-income families have strengths in large muscle development; they can climb, skip, tumble, balance, jump much better than their middle-class agemates of four or five.

The DARCEE program is collaborating with Vanderbilt University on a study of the correlation between nutrition and learning. Dental, clinical, nutritional, and general physical examinations were performed. Anthropometric measurements, including subcutaneous fat were recorded. Biochemical parameters of nutritional status were studied in both blood and urine.

A medical history of each child since birth was collected by contacting all the doctors and clinics that had examined the child at any time. A "growth development" picture was formed. This data is now in the process of being collated and compared to the child's school performance. The children are receiving remedial work if indicated by the examination.

In the dissemination of the DARCEE Model, we have isolated what might be termed essential components of a DARCEE Preschool program. These are as follows:

1. Temporal order - predictable daily schedule without wasted time.
2. Spatial order - physical setting organized for maximum learning.
3. Grouping - children assigned to small groups for certain periods of the day, flexible grouping.
4. Paraprofessionals, as well as professionals, function as teachers.
5. Daily planning and evaluation session involving total teaching staff.
6. Reinforcement and behavior management.
7. Aptitude development.
8. Attitude development.
9. Content Units.

10. Home visitor program to help mothers become better educational change agents for their children.

Paraprofessionals have been and are being trained to implement the DARCEE Curriculum in the classroom. The total staff is involved in extensive preservice training; continuing inservice training is the daily responsibility of the Lead Teacher and Director of Centers. Two hours each day are spent in evaluation and planning. Lesson plans for each activity are written by the small group teacher as a means for reaching a stated objective. Materials to be used, a step-by-step plan for an activity, attitude and aptitude goals for specific children are carefully outlined. After the plan is implemented, it is evaluated in terms of objectives for specific children.

Our classroom curriculum is developmental rather than remedial. We attempt to create an environment that will include the elements essential to the development of the child.

Programs for Parents

A variety of training programs, designed to train mothers to be effective educational change agents for their children in their own homes, constitute DARCEE's primary mode of parent involvement. Being an effective educational change agent requires that the mother provides stimulation and experiences which are appropriate to the child's developmental level, and which enhance the child's perceptual, conceptual and language skills as well as foster persistence, positive self-esteem, independence, the desire to achieve, and a positive attitude toward school.

Because this form of intervention takes place in the target homes, it has been designated Home Visiting. Home visiting projects have been implemented by professionally-trained, experienced teachers, and also by paraprofessionals. Over the years, our paraprofessional home visitors have been able to move from trainee to supervisory positions.

The home visiting approach has several characteristics which make it appealing. One is that it is a relatively inexpensive program to put into practice. Working with mothers and children in the home costs only a fraction of the amount required to operate and staff a formal preschool program.

The home visiting approach also has the advantage of reaching more than one child in each family unit. Home visitors actively encourage mothers to adapt the activities they use with one child for use with her other children. A fairly expensive formal preschool program might involve 20 children each year while a relatively inexpensive home visiting program, which includes 20 families, can reach more than 100 children each year. This is an important feature at a time when money is scarce and people want the best possible return on the dollar.

Trying to build a child's potential for school success by working through the mother makes sense for several reasons. The mother's central role in the family points to the very strong probability that changes in her behavior or "life style" will have an effect on the entire family. Over the years, we have found that many mothers who participated in home visiting programs have changed in significant ways. Some mothers have continued their education, and others have received specialized training. A few of the mothers who were involved in one of our early home visiting projects have been working on the DARCEE professional staff for two years. There have been many reports of mothers' increased involvement with neighborhood schools and other community agencies. Many mothers have been encouraged to move out into the community, to explore and use available community resources, and thus to contend with the forces which influence the life of their families.

Perhaps an even more persuasive argument for working with mothers comes from an examination of the results of most preschool programs for low-income children. In most cases, it has been found that the gains which children make in the preschool are "washed out" or disappear as the child moves through the public school. There is a pressing need to sustain the gains which are made. One way to sustain these gains is to make public schools better. Another is to develop a sustaining agent in the child's life. Who would serve better at this than the child's mother? Her genuine concern for her children, her importance in the eyes of her children, and the fact that she will be there with her children for longer than any educational program all point to the mother's suitability for this role.

DARCEE's current focus is on the low-income group. It seems obvious, but still is important to state that poor people lack many of the resources which are present in and available to middle- and upper-income groups. The

lack of sufficient resources, especially if it occurs over generations, can have drastic effects on low-income families. While these effects are not yet clearly understood, several studies have shown that in response to impoverished living conditions many poor people behave in ways which tend to interfere with the attainment of success in our society.

A number of articles written on the subject of mother-child relations in low-income homes tend to agree that in the continued struggle for survival many poor mothers develop a feeling of powerlessness and low self-esteem. Not feeling that she is a worthwhile and effective person, the low-income mother often seems unable to see herself as having enough control over environmental events to allow her to play an important role in influencing the physical, mental, emotional, and social growth of her child. She often has many children, and the demands of being a mother contribute to her sense of being overwhelmed. Having a large number of children works against treating each child on an individual basis. These conditions leave little time for active and verbal mother-child interaction and often cause the mother to value control of behavior rather than encouragement to freely explore the environment. Her methods of control are often negative and physical. The absence of stimulating "things" in the low-income home leaves the child with little to fall back upon when left to keep himself busy. If these conditions persist over the early years of a child's life--a crucial period of development--there is a good chance that the child will not develop the skills and attitudes necessary for school success.

DARCEE's home visiting approach is particularly concerned with the things that go on between low-income mothers and their children. Again, the goal is to teach the mother to be an effective teacher for her child.

This approach is built upon a developmental model in which the idea is to train the mother to provide experiences for her children which will promote their growth and development. Because the entire life circumstance of middle- and upper-income mothers is so different than that of lower-income mothers, our approach avoids the adoption of an ideal mother model based upon middle-class standards and values. The aim is to change the mother's pattern of interaction with her child; therefore, the emphasis is on <u>what</u> the mother does with her child, instead of <u>who</u> she is.

We have attempted to pull together what is currently known about child development and the strengths, and potential strengths, which exist in low-income homes. We are concerned about helping parents and children develop the skills and attitudes which will be necessary for future success. The result is a home training program which is relevant to the needs of the participants and effective in bringing about change.

In addition to home visiting, parents have also been introduced into the DARCEE classrooms. This process includes carefully supervised orientation and observation, as well as the planning, implementation, and evaluation of small group activities.

Implementation of Programs

The DARCEE program is implemented in three ways: in our Demonstration Center classroom, in the homes of the target families, and in other preschool programs where DARCEE is responsible for staff training.

a. The DARCEE preschool classroom program is organized around 10 essentials or invariants. These are described in another section of this paper.

b. Parents are involved in two primary ways. In our home visiting projects, an attempt is made to train mothers to be effective educational change agents in their own homes. These programs utilize materials and events which occur in the home context for educational purposes. Mothers have also been introduced into the classroom. This process includes carefully supervised orientation and observation, as well as the planning, implementation, and evaluation of small group lessons.

c. In effect, the DARCEE model has been successfully implemented in a full-day program. In this particular project, the DARCEE training effort focused on the morning segment of the program, while the afternoon was taken up with nap, free choice activities, snack, and outdoor play. The major adaptation that was required was in gearing small group activities to groups of 10 children instead of small groups of five. The major difficulty encountered was in the teacher's inability to free up enough time for necessary activity planning and evaluation, materials construction, etc.

Approaches Used in Evaluation

1. Assessment Indices: Over the years DARCEE has employed a variety of measures to describe children, adults, adult-child interaction, and dimensions of the home environment. Child measures include: the Stanford Binet, Wechsler Preschool and Primary Intelligence Scale, Peabody Picture Vocabulary Test, the DARCEE Concept Test (which measures the child's ability to match, recognize and identify shapes, colors, etc.), Goldman, Woodcock, & Fristoe Test of Auditory Discrimination, Goldman, Woodcock, & Fristoe Articulation Test, Test of Non-Verbal Auditory Discrimination, Visual Motor Integration Test, conceptual style (assessed by techniques developed by Kagan, Kahn, and Sigel), Metropolitan and Stanford Achievement Tests. Adult measures include: Lorge Thorndike, Wechsler Adult Intelligence Scale, Gates Reading Tests, DARCEE Basic Concepts Test, DARCEE Vocabulary Test, DARCEE Attitude Inventory. The Maternal Teaching Style Instrument has been used to assess the manner in which a mother teaches her child. Ecological procedures have been used to assess the interaction between the child and his immediate environment. This technique has been used for classroom observations in an attempt to describe characteristics of effective teachers. The ecological method has also been employed to describe home environments. The Peabody Cultural Opportunity Scale has also been used for this purpose.

2. Research Design: In general, a pretest-posttest control group design is used. Analysis of variance, analysis of covariance and other regression techniques are employed. While many of our studies extend for only one year, several intervention projects have been followed up and longitudinal data are available.

3. Research Schedule: The major portion of research is done immediately prior to and immediately following intervention (September and June-August).

However, shorter intervention projects and most of our basic research studies are done periodically throughout the year.

Overall, the data generated by the DARCEE Program indicate that gains in measures of academic aptitude can be made as a result of exposure to a well organized, systematic, and structured preschool program. This appears to be true whether the intervention occurs for one 40-week school year or for a longer period. It also appears that preschool programs which provide for maternal involvement and training are more effective in terms of the child's measured abilities, than programs which do not involve the mother. Data are also available to suggest that Home Visiting is an effective and relatively inexpensive intervention technique.

References

1. General Information Materials:

DARCEE diagram (schematic one-page presentation of research, training, and demonstration programs)

DARCEE Newsletter (June, October, 1968, January, 1970. Supply of other issues exhausted)

Scripts for slide sequences: Overview of DARCEE
A Training Program for Mothers
What's Inside of Me
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